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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,237	04/07/2005	Martin Berg	P04,0298	3822
26574	7590	03/08/2006	EXAMINER	
SCHIFF HARDIN, LLP PATENT DEPARTMENT 6600 SEARS TOWER CHICAGO, IL 60606-6473			ZIMMERMAN, JOSHUA D	
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			2854	

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Please find below and/or attached an Office communication concerning this application or proceeding.

H:A

<b>Office Action Summary</b>	<b>Application No.</b> 10/505,237	<b>Applicant(s)</b> BERG ET AL.	
	<b>Examiner</b> Joshua D. Zimmerman	<b>Art Unit</b> 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 20-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/19/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 21 is objected to because of the following informalities: Claim 21, line 1, appears to contain a typographical error. Claim 21 claims a dependency from itself. Appropriate correction is required. For the purposes of examination, it is assumed that claim 21 is dependent from claim 20.
2. Claim 21 is objected to because of the following informalities: Claim 22, line 3, appears to contain a typographical error. --small-- should be --smaller--. Appropriate correction is required.
3. Claim 56 is objected to because of the following informalities: Claim 56, line 2 appears to contain a typographical error. --sued-- should be --used--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 53-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 53, "a device according to claim 50 wherein the surface of the print carrier has a roughness that is smaller than a roughness used in a standard offset printing method" does not recite structure of a device, as required by the preamble. It is unclear whether applicant is attempting to claim the print carrier as part of the device.

Regarding claim 54, "a device according to claim 53 wherein an average roughness of the surface is smaller than 10  $\mu\text{m}$ " does not recite structure of a device, as required by the preamble. It is unclear whether applicant is attempting to claim the print carrier as part of the device.

Regarding claim 55, "a device according to claim 53 wherein an average roughness of the surface of the print carrier is small than 2  $\mu\text{m}$ " does not recite structure of a device, as required by the preamble. It is unclear whether applicant is attempting to claim the print carrier as part of the device.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 31-33 and 50-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Heinzl et al. (US 6,295,928).

Regarding claim 31, Heinzl et al. disclose "a device to generate a print image on a carrier material (Figure 2), comprising:

a pre-treatment station which applies a wetting-aiding substance in molecular layer thickness on a surface of a print carrier, a surfactant with hydrophilic molecule sections being used as the wetting-aiding substance (column 2, line 60);

a fountain solution application station which coats the surfactant on the surface of the print carrier with a layer which is one of ink-repelling and ink-attracting, said layer comprising a fountain solution (Figure 4);

an image generation station which structures the fountain solution layer with ink-attracting regions and ink-repelling regions corresponding to a structure of the print image to be printed, ink adhering to the ink-attracting regions and not absorbed by the ink-repelling regions (Figure 2, item 48);

a transfer printing station at which the ink is transferred onto a carrier material (figure 2, items 12, 14 and 18); and

before a new structuring on the same surface of the print carrier, a cleaning station which cleans the surface of the print carrier (Figure 2, item 54)."

The language "and a layer thickness for the wetting-aiding substance being smaller than about 0.1  $\mu\text{m}$ " is intended use and the apparatus of Heinzl et al. is capable of applying the substance having a thickness smaller than about 0.1  $\mu\text{m}$ .

Regarding claim 32, Heinzl et al. further disclose "wherein the fountain solution layer is ink-repelling, the fountain solution is based on water as an ink-repelling layer (column 2, lines 47-48)."

Regarding claim 33, Heinzl et al. further disclose "wherein the fountain solution layer is ink-repelling and a thickness of the layer is smaller than 1  $\mu\text{m}$  (column 4, lines 31-33)."

Regarding claim 50, Heinzl et al. disclose "a device to generate a print image on a carrier material (figure 2), comprising:

a pre-treatment station which applies a wetting-aiding substance in molecular layer thickness on a surface of a print carrier, a surfactant with hydrophilic molecule sections being used as the wetting-aiding substance (column 2, line 60);

an image generation station which structures the surfactant to create regions used for forming ink-repelling regions corresponding to a structure of the print image to be printed (Figure 4);

a fountain solution application station which coats the surfactant on the surface of the print carrier with a layer which is one of ink-repelling and ink-attracting, said layer comprising a fountain solution, and forming said ink-attracting and ink-repelling regions (figure 2, item 48);

a transfer printing station at which the ink is transferred onto a carrier material (items 12, 14 and 18 of figure 2); and

before a new structuring on the same surface of the print carrier, a cleaning station which cleans the surface of the print carrier (item 54 of figure 2)."

The limitation "ink adhering to the ink-attracting regions and not absorbed by the ink-repelling regions" is intended use and does not recite structure.

The language "and a layer thickness for the wetting-aiding substance being smaller than about 0.1  $\mu\text{m}$ " is intended use and the apparatus of Heinzl et al. is capable of applying the substance having a thickness smaller than about 0.1  $\mu\text{m}$ .

Regarding claim 51, Heinzl et al. further disclose "wherein the fountain solution layer is ink-repelling, the fountain solution is based on water as an ink-repelling layer (column 2, lines 23-26)."

Regarding claim 52, Heinzl et al. further disclose "a device according to claim 50 wherein the fountain solution layer is ink-repelling and a thickness of the layer is smaller than 1  $\mu\text{m}$  (column 4, lines 31-33)."

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 20-22, 28-30, 39-41 and 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinzl et al.

Regarding claim 20, Heinzl et al. teach "a method to generate a print image on a carrier material (column 2, lines 15-21), comprising the steps of:

applying a wetting-aiding substance with a molecular layer thickness on a surface of the print carrier, and using as the wetting-aiding substance a surfactant with hydrophilic molecule sections (column 2, lines 55-60);

coating the wetting-aiding substance on the surface of the print carrier with a layer which is one of ink-repelling and ink-attracting, said layer being made from a fountain solution (column 2, lines 26-27 and 47-48, column 4, lines 31-33);

in a structuring process of said fountain solution layer, generating ink-attracting regions and ink-repelling regions corresponding to a structure of the print image to be printed (column 2, lines 23-26);

applying ink that adheres to the ink-attracting regions and that is not absorbed by the ink-repelling regions (column 2, lines 27-29);

transferring the applied ink onto the carrier material (column 2, lines 29-30); and  
before a new structuring process on the same surface of the print carrier, cleaning and re-coating the surface with said fountain solution layer (column 3, lines 23-28)."

Heinzl et al. do not specifically disclose "a layer thickness for the wetting-aiding substance being smaller than about 0.1  $\mu\text{m}$ ." However, Heinzl et al. disclose the thickness of the dampening solution layer as being in the  $\mu\text{m}$  range (column 4, lines 31-33), implying that the wetting-aiding substance thickness would be less than said dampening solution layer thickness range. It would have been obvious to one of ordinary skill in the art at the time of the invention, through routine experimentation, to make the layer thickness of the wetting-aiding substance smaller than about 0.1  $\mu\text{m}$  to obtain the optimum wetting-aiding characteristics.

Regarding claim 21, Heinzl et al. further teach "wherein said fountain solution layer is ink-repelling and the fountain solution is based on water (column 2, lines 47-48)."



Regarding claim 22, Heinzl et al. further teach "the fountain solution layer is ink-repelling and a layer thickness of the ink-repelling layer is small than 1  $\mu\text{m}$  (column 4, lines 31-33)."

Regarding claim 28, Heinzl et al. further teach "wherein a plurality of printing events occur before a restructuring of the surface, and the print carrier is inked multiple successive times (column 3, lines 17-23)."

Regarding claim 29, Heinzl et al. further teach "wherein the surface of the print carrier comprises one of a continuous band and a generated cylinder surface (column 3, lines 59-60 and item 20 of Figure 1)."

Regarding claim 30, Heinzl et al. further teach "wherein an ink separation occurs before the transfer of the ink onto the carrier material (column 3, lines 60-65 and figure 1, item 22)."

Regarding claim 39, Heinzl et al. teach "a method to generate a print image on a carrier material (column 2, lines 15-21), comprising the steps of:

applying a wetting-aiding substance with a molecular layer thickness on a surface of the print carrier and using as the wetting-aiding substance a surfactant with hydrophilic molecule section (column 2, lines 55-60);

in a structuring process, generating at the surfactant regions used for forming ink-attracting regions and ink-repelling regions corresponding to a structure of the print image to be printed (column 2, lines 23-26);

coating the surfactant on the surface of the print carrier with a layer which is one of ink-repelling and ink-attracting, said layer being made from a fountain solution, and

Art Unit: 2854

forming said ink-attracting and ink-repelling regions (column 2, lines 26-27 and 47-48 and column 4, lines 31-33);

applying on the fountain solution layer ink that adheres to the ink-attracting regions and that is not absorbed by the ink-repelling regions (column 2, lines 27-29);

transferring the applied ink onto the carrier material (column 2, lines 29-30); and

before a new structuring process on the same surface of the print carrier, cleaning and re-coating the surface with said fountain solution layer (column 3, lines 23-28)."

Heinzl et al. do not specifically disclose "a layer thickness for the wetting-aiding substance being smaller than about 0.1  $\mu\text{m}$ ." However, Heinzl et al. disclose the thickness of the dampening solution layer as being in the  $\mu\text{m}$  range (column 4, lines 31-33), implying that the wetting-aiding substance thickness would be less than said dampening solution layer thickness range. It would have been obvious to one of ordinary skill in the art at the time of the invention, through routine experimentation, to make the layer thickness of the wetting-aiding substance smaller than about 0.1  $\mu\text{m}$  to obtain the optimum wetting-aiding characteristics.

Regarding claim 40, Heinzl et al. further teach "wherein said fountain solution layer is ink-repelling and the fountain solution is based on water (column 2, lines 47-48)."

Regarding claim 41, Heinzl et al. further teach "wherein the fountain solution layer is ink-repelling and a layer thickness of the ink-repelling layer is smaller than 1  $\mu\text{m}$  (column 4, lines 31-33)."

Regarding claim 47, Heinzl et al. further teach "wherein a plurality of printing events occurs before a restructuring of the surface, and the print carrier is inked multiple successive times (column 3, lines 17-23)."

Regarding claim 48, Heinzl et al. further teach "wherein the surface of the print carrier comprises one of a continuous band and a generated cylinder surface (column 3, lines 59-60 and item 20 of figure 1)."

Regarding claim 49, Heinzl et al. further teach "wherein an ink separation occurs before the transfer of the ink onto the carrier material (column 3, lines 60-65 and item 22 of figure 1)."

7. Claims 23-25, 34-36, 42-44 and 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinzl et al. in view of Uesugi et al. (US 6,232,037).

Regarding claim 23-25, 34-36, 42-44 and 53-55, Heinzl et al. do not disclose the specific roughness values claimed. Uesugi et al. teach the use of a print carrier web having an average roughness value between .15 and .35  $\mu\text{m}$  (abstract) in order to decrease pits in the surface and to decrease scumming (column 1, lines 55-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the print carrier of Uesugi et al. in combination with Heinzl et al. in order to decrease scumming on the printed medium.

8. Claims 26-27, 37-38, 45-46 and 56-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heinzl et al. in view of D'Heureuse et al. (US 6,318,264).

Regarding claims 26-27, 37-38, 45-46 and 56-57, Heinzl et al. teach "wherein the radiation is at least one of a laser system, a laser, laser diodes, LEDs and a laser diode array for the structuring (column 4, lines 48-55)."

Heinzl et al. fail to teach "wherein digitally-controlled radiation is used for the structuring." D'Heureuse et al. disclose a method and apparatus for exposing which uses a laser or LED array in order to expose a printing form based on image data from a digital database (column 8, lines 39-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to control the lasers and/or LEDs of Heinzl et al. in accordance with digital image information as accomplished by D'Heureuse et al. in order to speed the printing process.

### ***Conclusion***

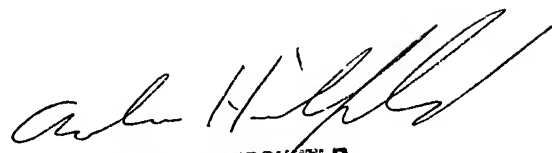
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Zimmerman whose telephone number is 571-272-2749. The examiner can normally be reached on M-R 8:30A - 6:00P, Alternate Fridays 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joshua D Zimmerman  
Examiner  
Art Unit 2854

jdz



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